

less-than-orthodox subject for research.

Rightly so, says Ruse, professor of philosophy and zoology at the University of Guelph in Ontario. He argues that evolutionary studies have been shaped from the beginning by an overarching “concept of progress” that does not, despite its secular nature, fit comfortably into the scientific enterprise. In this methodical study, he tries to show how notions of social and moral betterment—and their perceived connection to biological progression from microorganism to man—have influenced the scientific thought of major Anglo-American figures from Herbert Russell Wallace to George Gaylord Simpson and Geoffrey Parker.

The case is not always convincing. Consider Ronald A. Fisher (1890–1962), whose achievement was to add nuance and mathematical structure to evolutionism by combining Darwin’s theory of natural selection with Gregor Mendel’s principles of genetics. Fisher was passionately interested in eugenics and believed, erroneously, that almost all human abilities are innate. Ruse asserts, but does not really prove, that Fisher’s enthusiasm for human progress through breeding distorted his actual scientific work.

More compelling is Ruse’s examination of the contemporary debate over Edward O. Wilson’s theory of sociobiology, which posits that human social behavior can be understood in terms of evolutionary origins. Ruse makes the cogent point that while Wilson’s enthusiasm for cultural progress has led to an explicitly stated belief in biological progress, the same enthusiasm in Stephen Jay Gould has led to a career built on energetic denial of biological progress. In this modern context, it does seem that evolutionary biology has become infused, indeed polarized and defined, by an underlying cultural value.

—David Reich

ABSTRACTING CRAFT:
The Practiced Digital Hand.

By Malcolm McCullough. M.I.T. Press.
250 pp. \$25

“Between the morning news and your bedtime reading there will be road signs, billboards, computer screens, junk mail, posters, photo prints, presentation slides, pictures on people’s shirts, snippets of television shows, maybe a movie, a computer game, maybe a couple of downloads from the Internet, a videotape. . . .” As described by McCullough, a professor of architecture at Harvard

University, the visual explosion ignited by the computer age is both sinister and inspiring.

McCullough is concerned about the computer’s ability not only to multiply images but (with advances in digital technology) to alter them as well. “Bits replace atoms,” he writes, “and digital signal processing undermines the very physicality of reproduction.” Armed with keyboard, mouse, and staggeringly sophisticated graphics software, the computer artisan can experiment endlessly on a single base image, the untouched original on a disk. Were he alive today, Leonardo da Vinci could spawn a myriad of Mona Lisas, each with her own enigmatic smile.

Yet what about creating the Mona Lisa in the first place? Admitting that “computers’ incontestable practicality gives rise to an astonishing amount of banal and cheaply executed work,” McCullough makes the seemingly commonplace observation that the computer is a *tool*, not a substitute for the vision of the artist or the thinker. In effect, he denies the claims of most software marketers. Buying a copy of Adobe Illustrator will not magically transform someone into, say, Maurice Sendak.



Such conclusions may not be astounding, but they do illuminate matters that can be overlooked or misunderstood in today’s workplace. Too often, writes McCullough, “left-over industrial-era attitudes about technology” lead

managers to employ armies of workers with only modest computer skills to perform simple drafting and other applications, rather than hire highly skilled people capable of a variety of functions. Such “task automation” overlooks that “the computer is not a tool so much as hundreds of tools.”

Further, McCullough urges people with artistic ability not to turn their backs on computers. In his brave new world, the digital artisan will use a computer just as a stone carver wields a pneumatic drill to sculpt, or a skilled potter operates a motorized wheel to create an exquisite vase: as an aid, not an adversary.

—James Carman